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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,260	07/30/2001	Francesc Subirada	60004608Z141	4064

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EXAMINER

CARTER, TIA A

ART UNIT PAPER NUMBER

2626

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/919,260	Applicant(s) SUBIRADA ET AL.	
	Examiner Tia A Carter	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 20-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

It is unclear to the Examiner how portions of a processor is used; it is understood that the processor is a digital electronic device as disclosed on page 37, lines 20-21; page 38, lines 8-9 and lines 21-22 wherein all of the teachings refer to the processor as one single device controlling various functions of the printing device.

Claim 20 cites “ portions of the processor for operating the at least one print head and the carriage to form a color-calibration test pattern, said test pattern being formed on such medium adjacent to at least one reference area” which is unclear and not disclosed in the specification in such manner wherein Examiner can properly search and understand the claim limitation; and

“said interpreting means comprising processor portions for:”

Claim 23 cites “ portions of the processor for interpreting the converter output signals, to correct the converter output signals for drift due to incomplete

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warm up” which is unclear and not disclosed in the specification in such manner wherein Examiner can properly search and understand the claim limitation

Claim 30 cites “at least one processor having portions for controlling the at least one print head to discharge ink drops in a pattern to form such image” (lines 8-10, page 54) and “ portions of the processor for operating the at least one printhead to form a color-calibration test pattern” (lines 14-16, page 54) and “said compensating means comprising portions of the processor for interpreting output signals from the converter” (lines 52-54, page 55 and “ said interpreting portions comprising processor portions for “ (lines 56-57, page 55) which is unclear and not disclosed in the specification in such manner wherein Examiner can properly search and understand the claim limitation.

Claim 31 cites “ wherein the at least one processor also has portions for coordinating the carriage and the at least one printhead to form such image; and wherein the processor controlling portions comprise portions for performing calculations used respectively in” (lines 6-10 page 56) which is unclear and not disclosed in the specification in such manner wherein Examiner can properly search and understand the claim limitation.

Claim 40 cites “portions of the processor for operating the at least one printhead to form a color-calibration test pattern” (lines 10-11, page 60) and “guide means establishing a spacing between such printing medium and at least

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a portion of the sensor" (lines 25-26 page 60) and "said interpreting means comprising processor portions " (lines 35-36, page 61) which is unclear and not disclosed in the specification in such manner wherein Examiner can properly search and understand the claim limitation.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhattacharjya 9US. 5809213) in view of Tanaka et al. (US. 6345876)

Regarding claim 1, Bhattacharjya disclose a method of correcting for sensor drift in color calibration for a printer; said method comprising the steps of:

printing on a printing medium a test pattern for each of at least one colorant (fig. 4, col. 12, lines 7-15);

scanning a sensor, along a scanning direction, over each test pattern and at least one adjoining tonal reference area of the medium (fig. 2, col. 12, lines 16-40);

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wherein the printing step comprises disposing each said test pattern next to, along the scanning direction, the at least one reference area (fig. 3, col. 11, lines 18-27);

whereby said scanning step comprises the step of exposing the sensor to each respective reference area, along the scanning direction (fig. 3, col. 11, lines 56-67; col. 12, lines 1-6); and

Bhattacharjya do not disclose interpreting the sensor response to each said reference area, to adjust the sensor response to at least one part of each test pattern.

Tanaka et al. discloses interpreting the sensor response to each said reference area, to adjust the sensor response to at least one part of each test pattern (fig. 1, col. 6, lines 25-63).

It would be obvious to one skilled in the art at the time of the invention to modify Bhattacharjya wherein threshold identified as unmarked margins are implemented in Bhattacharjya's system for performing an accurate correction of sensor in a an automatic calibration system.

Regarding claim 2, Bhattacharjya discloses the method of claim 1, wherein: the printing step comprises disposing each said test pattern between, along the scanning direction, at least two of said reference areas (fig. 3, col. 11, lines 18-27).

Regarding claim 3, Bhattacharjya discloses the method of claim 2.

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Bhattacharjya do not disclose at least two of said reference areas are unprinted areas of the medium.

Tanaka et al. disclose at least two of said reference areas are unprinted areas of the medium (fig. 1, col. 13, lines 50-59).

It would be obvious to one skilled in the art at the time of the invention to modify Bhattacharjya wherein threshold identified as unmarked margins are implemented in Bhattacharjya's system for performing an accurate correction of sensor in a an automatic calibration system.

Regarding claim 4, Bhattacharjya disclose the method of claim 1.

Bhattacharjya do not disclose the at least one reference area is an unprinted area of the medium.

Tanaka et al. disclose the at least one reference area is an unprinted area of the medium (fig. 1, col. 13, lines 50-59).

It would be obvious to one skilled in the art at the time of the invention to modify Bhattacharjya wherein threshold identified as unmarked margins are implemented in Bhattacharjya's system for performing an accurate correction of sensor in a an automatic calibration system.

Regarding claim 5, Bhattacharjya disclose the method of claim 4, wherein: the printing step comprises printing said test pattern for each of plural colorants (fig. 3, col. 11, lines 55-67).

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Regarding claim 6, Bhattacharjya disclose the method of claim 3, wherein: the printing step comprises printing said test pattern for each of plural colorants (fig. 3, col. 11, lines 55-67).

Regarding claim 7, Bhattacharjya disclose the method of claim 2, wherein: the printing step comprises printing said test pattern for each of plural colorants (fig. 3, col. 11, lines 55-67).

Regarding claim 8, Bhattacharjya disclose the method of claim 1, wherein: the printing step comprises printing said test pattern for each of plural colorants (fig. 3, col.11, lines 55-67).

Regarding claim 9, Bhattacharjya disclose the method of claim 1, wherein: the printing step comprises printing said test pattern for each of plural colorants in succession (fig. 3, col. 11, lines 55-67).

Regarding claim 10, Bhattacharjya disclose the method of claim 1, wherein: the printing step comprises printing as each test pattern a sequence of color patches at various tonal levels; and

Tanaka et al. discloses the interpreting step comprises applying the sensor unprinted-area responses to adjust the sensor response to substantially each color patch in at least one of the plural test patterns (fig. 1, col. 6, lines 25-63).

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It would be obvious to one skilled in the art at the time of the invention to modify Bhattacharjya wherein threshold identified as unmarked margins are implemented in Bhattacharjya's system for performing an accurate correction of sensor in a an automatic calibration system.

Regarding claim 11, Bhattacharjya disclose the method of claim 10, wherein:

the applying step comprises applying the sensor un- printed-area responses to adjust the sensor response to each color patch in substantially all of the substantially plural test patterns (fig. 1, col. 6, lines 52-63).

Regarding claim 12, Bhattacharjya disclose the method of claim 11, wherein: the applying step comprises interpolation between two sensor unprinted-area responses obtained at ends of each sequence of patches (fig. 6, col. 12, lines 26-65).

Regarding claim 13, Bhattacharjya disclose the method of claim 11, wherein the interpolation is based upon an interpolation model selected from the group consisting of:

an assumed mathematical function interrelating the responses at the ends of each sequence, with scan positions within each sequence (fig. 4, col. 12, lines 18-67; col. 13, lines 1-15); and

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a succession of levels separately measured for media-point responses during a preliminary precalibration scan (fig. 5, col. 13, lines 36-67; col. 14, lines 1-25).

Regarding claim 14, Bhattacharjya discloses the method of claim 13, wherein: the Preliminary precalibration scan is not made automatically in field operations but only at the factory (col. 3, lines 44-55).

Regarding claim 15, Bhattacharjya discloses the method of claim 13, wherein:

the Preliminary Precalibration scan is made automatically in field operations but is not applied in absolute terms, and rather is used only for proportioning the interpolation between the two responses obtained at the ends of each sequence of patches.

Regarding claim 16, Bhattacharjya discloses the method of claim 11. the printing step comprises automatically arranging some of the patch sequences for each test pattern, selectively either side-by-side or one above the other on such printing medium so as to fit an available size of such medium (fig. 7, col. 10, lines 58-67; col. 11, lines 1-3);

said disposition of each sequence between two unprinted areas is maintained notwithstanding said automatic selective arranging (fig. 8, col. 5, lines 46-59); and

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said steps of exposing said two adjoining unprinted areas, and interpreting said two sensor unprinted-adjointing-area responses, are maintained notwithstanding said automatic selective arranging (fig. 8, col. 11, lines 46-67); whereby the method is robust to use of different printing-medium sizes.

Regarding claim 17, Bhattacharjya disclose the method of claim 16, wherein: the printing step comprises printing the patches, within each sequence, in alternation between two extreme thitherto-unprinted tonal values of the sequence (fig. 7, col. 10, lines 58-67 and col. 11, lines 1-10);

whereby for each colorant, to provide a roughly constant printing activity during the printing step:

highest and lowest tones appear side by side at one end of each sequence (fig. 7, col. 11, lines 66-67; col. 12, lines 1-25), and

two closest-valued middle tones appear side by side at an opposite end of each Sequence (fig. 7, col. 11, lines 66-67; col. 12, lines 1-25).

Regarding claim 18, Bhattacharjya discloses the method of claim 16, wherein:

the printing step comprises printing the patches, within each sequence, in alternation between two most- nearly central thitherto-unprinted tonal values of the sequence (fig. 7, col. 10, lines 58-67 and col. 11, lines 1-10);

whereby for each colorant, to provide a roughly constant printing activity during the printing step:

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two closest-valued middle tones appear side by side at an one end of each sequence (fig. 7, col. 11, lines 66-67; col. 12, lines 1-25), and

highest and lowest tones appear side by side at an opposite end of each Sequence (fig. 7, col. 11, lines 66-67; col. 12, lines 1-25).

Regarding claim 19, Bhattachariya discloses the method of claim 1, wherein: the printing step comprises scanning at least one marking print head along the scanning direction to form the test pattern.

Conclusion


4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ramirez et al. (US. 6603574) and Suzuki et al. (US. 5353052) are cited to show related art with respect calibration of reproduction systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tia A Carter whose telephone number is 703 - 306-5433. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A Williams can be reached on 703-305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

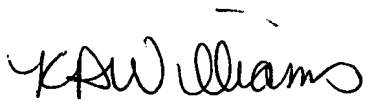
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TAC
1-21-2005

Tia A Carter
Examiner
Art Unit 2626



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